



PATENT APPLICATION
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF)	
PETER HAAS ET AL)	
SERIAL NUMBER: 10/736,164)	ART UNIT NO: 1711
FILED: DECEMBER 15, 2003)	EXAMINER: JOHN M. COONEY
TITLE: STABLE POLYOL DISPERSIONS, POLYURETHANE MOLDINGS PRODUCED THEREFROM, AND THEIR USE)	

DECLARATION UNDER 37 C.F.R. 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Peter Haas, residing at Zwengenberger Strasse 43, D-42781 Haan,
Germany do declare as follows:

1. that I studied chemistry at the University of Dusseldorf from 1970 to 1975;
2. that I obtained the degree of doctor rer.nat. at the University of Dusseldorf in 1975;
3. that I have been employed since 1976 by Bayer AG in Germany as a chemist;
4. that I am one of the inventors of U.S. Patent Application Serial No. 10/736,164, filed on December 15, 2003;
and
5. that I performed or supervised the following experiments:

Two comparison examples were conducted to demonstrate that the substitution of the components known and described in DE 19812174 and U.S. Patent 6,221,929 are not suitable for forming the presently claimed stable dispersions of polyol formulations in accordance with the present invention.

Comparison Product 1:

A transesterified product of DE 19812174 as described in Example 2 therein. More specifically, 460 g of glycerine were reacted with 319 g of propylene oxide in the presence of 0.3% KOH as a catalyst to yield a product with an OH number of 1075 mg KOH/g. Then, 932 g of castor oil were transesterified with 433 g of the previously formed propoxylate to yield a polyester polyol having an OH number of 456 mg KOH/g, an acid number of 0.84 mg KOH/g, and a viscosity of 1148 mPa·s at 25°C.

Comparison Product 2:

A polyoxylalkylene component of U.S. Patent 6,221,929 as described by component (e2) therein. Specifically, this component was the lauric acid diester (molecular weight of 600) of polyethylene glycol.

As disclosed in the working examples of the present application, the following components were used:

Component a):

Polyetherpolyol 1:

Polyether having an OH number of 830 obtained by the addition of propylene oxide onto trimethylolpropane.

Component b):

Polyetherpolyol 2:

Polyether having an OH number of 42 obtained by the addition of propylene oxide and ethylene oxide (as a mixture) onto a mixture of trimethylolpropane and propylene glycol (molar ratio 3:1).

Component c2):

Release agent containing amide groups:

Amidoamine/oleic acid salt (prepared from 1 mol of 3-dimethylamino-1-aminopropane and 2 mol of oleic acid)

Component d):

Water

Activators e) and stabilizers f):

Stabilizer: B 84 11 from Goldschmidt

Activator: Desmorapid® 726 b from Bayer AG

Preparation of the dispersions and their stability:

Components a), b), c2), d), e) and f), and either Comparison Product 1 or Comparison Product 2 as described hereinabove, were mixed at 1000 rpm for 60 seconds at room temperature by means of a Pendraulik stirrer and left to stand in a closed vessel. The settling behavior of the dispersions prepared in this way was observed. The results and the compositions (in parts by weight) are shown in the Table below.

The parts by weight are identical to those of the working examples in the present application, with Comparison Product 1 or Comparison Product 2 as described hereinabove being substituted for FAPes 3-9. FAPes 3-9 are representative of the fatty acid polyester presently being claimed as release agent c1) in the present application.

Table: Stability of the dispersions

Dispersion No. Component	Comparison Example 1	Comparison Example 2
Polyether Polyol 1	60	60
Polyether Polyol 2	40	40
Amidoamine	3	3
Water	0.5	0.5
Comparison Product 1 (DE 19812174)	3	
Comparison Product 2 (U.S. Patent 6,221,929)		3
Stability in days	< 1	5
Results	Inhomogeneous product after 24 hrs.	Inhomogeneous product; exhibits fog, cords after 5 days

6. CONCLUSIONS:

These two comparative experiments illustrate that the polyester polyols of DE 19812174 and the esterified polyoxyalkylene components of U.S. Patent 6,221,929 do not form stable polyol dispersions when used in otherwise identical formulations as set forth in the working examples of U.S. Application Serial No. 10/736,164, filed on December 15, 2003. By comparison, the presently required release agents, i.e. components c1), which are represented by FAPE 3, FAPE 4, FAPE 5, FAPE 6,

FAPE 7, FAPE 8 and FAPE 9 in the working examples of the present application resulted in stable polyol dispersions. (See Examples 4-10 in Table 1 on page 9 of the present application.) These polyol dispersions were stable for at least 10 days (see Example 4). This is twice as long as the dispersion in Comparative Example 2 above. The other examples in the application were stable for periods of 20, 23, 25, 35 and over 50 days.

I respectfully submit that Comparative Example 1 and Comparative Example 2 as illustrated herein support the position that the polyesterpolyol components of DE 19812174 and the completely esterified products of U.S. Patent 6,221,929 are not equivalent to the presently required release agents. Therefore, combining these with a conventional polyether polyol, such as is described in U.S. Patent 6,221,929, does not result in the presently claimed stable dispersions of polyols. It is therefore submitted that these references does not anticipate the presently claimed invention.

7. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Further Declarant Sayeth Not.

Signed at Chicago, this 11th day of April, 2005.
Peter Haas
Peter Haas

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